

ORNITHOLOGICAL LITERATURE

THE BIRDS OF CANADA. By W. Earl Godfrey. National Museum of Canada Bulletin No. 203, Biological Series No. 73, Ottawa, 1966: 8½ × 11 in., 428 pp., 69 col. pls. by John A. Crosby, many line drawings by Stewart D. MacDonald, 2 endpaper maps, 380 small distributional maps. \$12.50. (Checks should be made out to the Receiver General of Canada and order mailed to the Queen's Printer, Ottawa.)

Many of the most exciting days of my life have been lived in Canada. Icebergs, seals, fulmar petrels, and shearwaters "down north" along the Labrador; treacherous "white water," with long portages to match, along the Abitibi and the Missinaibi; vast mudflats and a skyful of wavies at the south end of James Bay; Eskimos, husky dogs, walruses, and polar bears on Southampton Island; clouds of mosquitoes and brown muskeg water at Churchill; Black Oystercatchers and a dripping jungle of salal at the north end of Vancouver Island; Clark's Nutcrackers, mountain goats, and hoary marmots in high country near Red Pass, British Columbia; ocean whirlpools in Richmond Gulf and Frobisher Bay; bands of caribou at Amadjuak; cliffs towering above the ocean ice along the north coast of Victoria Island; Solitary Sandpiper eggs in a waxwing nest near Rocky Mountain House, Alberta; recently hatched Knots on Jenny Lind Island; Ross's Geese circling over their nests in the Perry River district south of Queen Maud Gulf—all these have been part of my experience during the past fifty years. Memories of them are vivid and important. Small wonder that I open so eagerly this new "Birds of Canada" with its eye-catching jacket photograph of an Arctic Tern. The picture itself rouses memories—of a newly hatched baby tern crouched on the sand, of an irate parent directly above me, and of blood enough on my forehead to convince me that I was not wanted there.

Except for the somewhat surprising omission of habitat photographs, Earl Godfrey's book is no disappointment. Most of the 518 species covered are exceptionally well illustrated in color. Three forms considered full species in the A. O. U. Check-list of North American Birds (1957)—the Blue Goose, Black Brant, and Harlan's Hawk—are believed by Godfrey to be conspecific with the Snow Goose, Brant, and Red-tailed Hawk, respectively; one form, Thayer's Gull, which the Check-list considers a race of Herring Gull, Godfrey believes to be a full species. For each of 380 species there is a good map showing breeding distribution in red. Species writeups, each with measurements and a discussion of field marks, habitat, nesting, over-all range, range in Canada, and subspecies found in Canada, cover the ground effectively. Maps prepared by the Surveys and Mapping Branch of the Department of Mines and Technical Surveys in Ottawa serve as endpapers. The map at the front gives the position of hundreds of localities—though I look in vain for Killinek and Indian Harbor on the Labrador, for Masset on the Queen Charlotte Islands, and for Taylor Island, off the eastern end of Victoria Island, place-names which are important ornithologically. The map at the back shows the distribution of forest regions, grassland, and tundra. The treeline merits careful study. The fact that forest extends northward to the mouth of the Mackenzie has long been known and documented; but the "fingers" of forest extending almost to the Arctic Ocean along the Anderson and Coppermine rivers, the "island" of forest along the Thelon River, and the straight, southwestward-pointing "finger" of forest along the Leaf River, between the head of Ungava Bay and the east coast of Hudson Bay, have received comparatively

little attention in ornithological literature. Maps giving in detail the breeding distribution of such hardy woodland species as the Boreal Chickadee, Ruby-crowned Kinglet, and Pine Grosbeak probably would show some or all of these "fingers" and "islands."

The parts of the book headed "Range in Canada" must have involved a staggeringly large amount of work. I have not gone over much of this material in detail, for checking many records would be impossible without visiting the National Museum of Canada, where "the source of any particular distributional or other data" is available (p. 7): but the records for certain species in which I have long had special interest (e.g., Snow Goose, Marbled Murrelet, Yellow Rail, Le Conte's Sparrow) are thoroughly covered. The nesting habits of the Marbled Murrelet continue to be virtually unknown despite the finding of full-formed eggs in oviducts, of flightless young, and of "an adult with a broken partly-incubated egg in debris of a felled tree," and "numerous observations of adults carrying food inland" (p. 200). Another puzzling bird is the large, dark form of White-fronted Goose, *Anser albifrons gambelli*, possibly a full species rather than a race of *A. albifrons*, which has been "recorded from Mackenzie Delta, Repulse Bay, and the arctic coast east of Fort Anderson" but whose "breeding range remains to be found" (p. 52).

The small distributional maps are an invaluable feature of the book. Very few persons are familiar enough with the Canadian Arctic Archipelago to remember at all accurately where the many islands are, so limits of distribution as set by long lists of place-names (islands, trading posts, missions, weather stations, Dewline stations, etc.) might be difficult indeed to work out, even with the best of maps at hand for reference. In this connection, consider for a moment the breeding distribution of the jaegers. How easy it is, using the maps, to see that the Long-tailed species is decidedly the most northward-ranging; that the Parasitic is the most southward- and eastward-ranging; that the Pomarine, despite its being the heaviest and supposedly the "toughest" of the three, is considerably the most restricted in its summer distribution. How utterly impossible it would be, using place-names only, to convey these concepts promptly! Incidentally, my own experience with the Pomarine Jaeger leads me to suspect that from time to time, depending largely, perhaps, on the abundance of lemmings, it may nest in many areas not marked with red on the map (p. 171).

Comparison of maps pertaining to certain well-known birds may bring surprising facts into focus. Take, for example, the Least and Semipalmated sandpipers, new world forms which breed almost literally side-by-side throughout a considerable northern part of continental North America. The breeding-habitat requirements of the two must be much the same, yet a glance at the maps (pp. 155, 160) instantly reveals that the Semipalmated breeds northward well beyond the northern limits of the other. Is the Semipalmated therefore the hardier? The answer to this question might be an unequivocal yes—were reproductive success at high latitudinal limits-of-breeding the only possible criterion. But observe that in Oklahoma the Least Sandpiper has been recorded repeatedly between 21 December and 1 March (specimens taken 15 January 1955, 26 February 1955, 26 February 1961), whereas there are few sight records for, and not a single specimen of, the Semipalmated Sandpiper for the same dead-of-winter period. My own feeling about this discrepancy is that although the nesting-habitat requirements of the two species are much the same, the winter-habitat requirements may differ considerably.

Puzzling indeed is the fact that although there are several acceptable old world records for the two scolopacids just discussed there are few, *if any*, new world records for the Little Stint (*Erolia minuta*), only two (one of them unpublished) for the Long-

toed Stint (*E. subminuta*), and only one (unpublished) for Temminck's Stint (*E. temminckii*). Here I cannot dispel suspicion that all three have been taken from time to time in America but that the specimens have been misidentified. In any event we find no mention of them in this compendious work; nor do we find a record for the Ringed Plover (*Charadrius hiaticula*) from any locality south of the much-restricted new world part of that species' breeding range (pp. 131-132). At this point I must make clear that Godfrey considers the Ringed Plover and Semipalmated Plover (*C. semipalmatus*) distinct species.

Among the many surprises afforded by the maps are the red spots indicating small discrete breeding populations far removed from the principal breeding areas. See, for example, the Northern Mockingbird map (p. 292) with its red spots scattered from southern Alberta to easternmost Newfoundland; the Clay-colored Sparrow map (p. 393) with its red spot in southwestern Quebec; the Field Sparrow map (p. 395) with its red spot in southern Manitoba; and the Brown-headed Cowbird map (p. 361) with its red spot at the mouth of the Great Whale River on the east coast of Hudson Bay. Well may one wonder whether these small populations are truly discrete. The point of my comment is not, however, that future work may show them to be not wholly discrete after all, but rather that the maps present so effectively the facts as these are known today.

So very useful are these distributional maps that I am tempted to comment—in a way which may sound like adverse criticism, though it is not intended as that at all—on what a *magnum opus* of this sort might accomplish. Scores, literally scores, of these small distributional maps chop the poor birds off at the Alaska international line in a way which is downright painful to the zoogeographer. Might it not have been possible to combine forces in such a way as to map the distribution of species throughout the whole of northern America? The part titled "range" in each species writeup covers this ground, to be sure, but words lack the direct power of maps—as I have said above. Leaving Alaska (and Greenland) out is an unfortunate by-product of nationalism which should be foreign to scientific investigation. Were this book about a single province or island, or about, say, eastern Canada or western Canada, the omission of Alaska and Greenland would seem less glaring; but as the maps stand they seem to say only part of what they really ought to say. Canadians will counter with the statement that Canada was footing the bill. Godfrey will argue, and justifiably, that including Alaska and Greenland would have tripled the work. Well, might not the money and the man-power to help have been found in the United States and in Denmark?

Zoogeographically considered, the important lines are almost never political; they are tree-lines, soil-lines, permafrost-lines, continental divides, and the like. The distribution of birdlife in the far north has interested me deeply for a long time. As I examine these excellent, these truly inspiring, maps, I cannot help feeling that rather than showing what is known about bird distribution in the governmental entity called Canada they should declare the universality of the forces which determine bird distribution throughout a vast and important northern part of the world.

Finally, some comments on the color plates and the other bird drawings. John A. Crosby, whose work is quite new to me, has obviously paid very close attention to the facial expressions and feather-patterns of living birds and to the colors of their fleshy parts. His choice of background tones and accessory material deserves special praise. The stippled paper on which he drew the sandpipers of Plate 27 is wonderfully effective as background. So exquisitely done are the eleven "peeps" shown on this plate that I find myself turning to them for refreshment and inspiration. They form a remarkably convincing *ensemble*. So satisfying are the individual birds that one does not worry

about the mixup of seasons they represent, or about the laws of perspective which might *force* the figures at the top to be smaller than those at the bottom. The two species figured at the top are actually the smallest of the six shown, so the general effect is pleasing and accurate. The more I study the plate the more certain I am that the arrangement of bird-figures was no accident. Plate 27 is the work of a genius.

A quality possessed by the plates as a whole is their freshness, their freedom from any straining for effect. As one studies them one does not feel that the artist has tired of his subject matter, or become "fed-up" with the problems of artificial arrangements, pieces of branches, patches of forest, etc. The simple profiles are not monotonous because they are profiles of living birds. The way in which water, dead leaves, and bits of debris have been "whisked in" is, in my opinion, remarkable.

The engravers and printers deserve much credit for their part in producing these fine plates. I call attention particularly to the Yellow-breasted Chat on Plate 59. Here the yellow of the breast is perceptibly richer in tone than that of the yellowest parts of the other warblers shown in the same plate. The color is precisely as it should be; what is noteworthy is that artist, engraver, and printer have so successfully collaborated as to do this beautiful bird full justice.

Crosby will not resent my calling attention to certain shortcomings. Heavy birds such as the Band-tailed Pigeon in Plate 37 should not be shown at the very tip of a twig so slender that it would sag, thus forcing the bird to flutter in maintaining a foothold. Woodpecker feet should be drawn with great care, for the functional beauty of the powerful toes is something no artist should miss. In four-toed woodpeckers the hallux (first toe) is, according to my observations, invariably the shortest; the inner is somewhat the shorter of the two front toes; and the outer of the hind toes is about as long as, but never shorter than, the outer front toe. In Crosby's adult male Yellow-bellied Sapsucker (6a in Plate 42) the hallux is far too long and the outer hind toe far too short; in the Red-bellied Woodpecker on the same plate the inner front toe is much too long and the outer hind toe much too short. In the Horned Lark and Skylark (Plate 50) the hind claws should be only slightly curved. Straightness of the long hind claw is a dependable family character throughout the Alaudidae.

Stewart D. MacDonald's drawings add pleasing variety. Values in the two meadowlark heads (Fig. 67) are not consistent. We read as yellow the dark tone of the chin and throat, yet the same dark tone, as used on the top of the head, is restricted not to the yellow forepart of the superciliary, as it should be, but to brown parts of the crown and auriculars. In all adult Pomarine Jaegers that I have handled, the two middle rectrices "twist" in opposite directions in such a way as to give the tips of the feathers a "roofed" arrangement (Fig. 52). In both the Brown Creeper (Fig. 63) and Bobolink (Fig. 66) the tail has twelve rectrices rather than ten. The line drawings showing the modification of the sternum in the Whistling and Trumpeter swans (Figs. 17 and 18), the drawings of the foot of the Ruffed Grouse in winter and in summer (Fig. 43), and the drawing of the outermost primary in the Whimbrel and the Eskimo Curlew (Fig. 49) strike me as being especially well done.—GEORGE MIKSHI SUTTON.

THE BIRDS OF GUYANA (formerly British Guiana): A CHECK LIST OF 720 SPECIES, WITH BRIEF DESCRIPTIONS, VOICE AND DISTRIBUTION. By Dorothy E. Snyder. Peabody Museum, Salem, Massachusetts, 1966: 5¼ × 7¾ in., 308 pp., endpaper map. \$6.00.

The main value of this small book is that it gives a complete list of the birds of Guyana. This was long overdue as nothing of the kind has been published since Charles Chubb's monumental two-volume work, "The Birds of British Guiana" (London,